

The background of the advertisement features several large, overlapping saw blades. These include yellow and grey hacksaw blades, red band saw blades, and grey shear blades. Each blade has a red label with white text. The labels on the red band saw blades include: 'HIGH SPEED (MOLYBDENUM) 12" x .24T', 'HIGH SPEED (TUNGSTEN) 18T', 'HIGH SPEED Molybdenum 12" x 1" x .049-10T', and 'HIGH SPEED Tungsten 14" x 1 1/4" x .065-6T'. The grey shear blades have a red label that says 'RED STREAK'.

SIMONDS
CANADA SAW CO. LTD.

"RED END"
HACK
SAWS

Metal Cutting
**BAND
SAWS**

"TUNGSWELD"
SHEAR
BLADES

RED STREAK
Flat Ground
DIE STEEL

THESE PRODUCTS
MADE IN CANADA

SIMONDS "Red End" HACK SAW BLADES

First Quality, Precision Cutting Tools

A "Right" Blade for Every Use

The consistent high quality, uniformity and cutability of Simonds famous "Red End" Hack Saw Blades stem from a combination of the right type steel and constantly improved manufacturing methods and equipment.

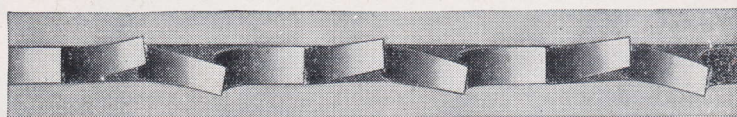
Simonds takes no chances . . . makes its own steel in electric arc type furnaces under the watchful eyes of experienced metallurgists and laboratory technicians. At the factory this steel is double-checked for required toughness and correct grain structure. Only then is it approved for processing into Hack Saw Blades that can be depended upon for the utmost in performance and satisfaction.

Identified by the distinctive "Red End" (Trade-mark Registered in Canada) Simonds Hack Saw Blades offer these outstanding quality features.

ACCURATELY MILLED TEETH

Simonds Design Tooth Shape, maintained by accurate milling, provides perfectly formed teeth of exact height. This distributes wear evenly to all teeth with resultant longer cutting life.

PRECISION SET TEETH



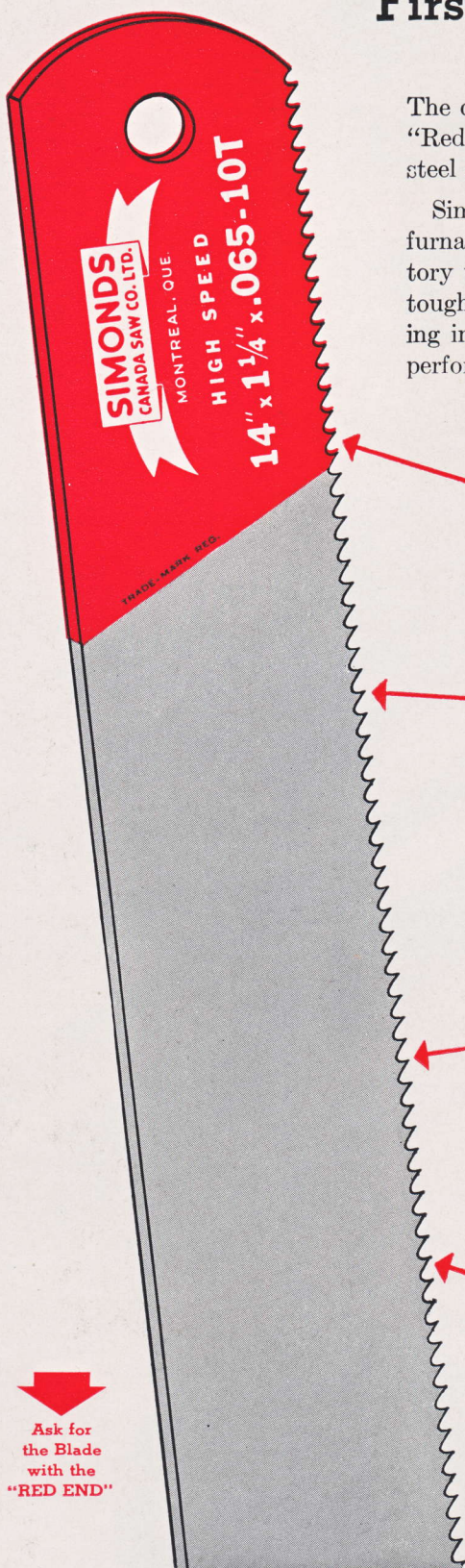
Machines of advanced design set the teeth to exacting tolerances. This not only provides adequate clearance but results in straighter cuts throughout the life of the blade.

UNIFORM HARDNESS

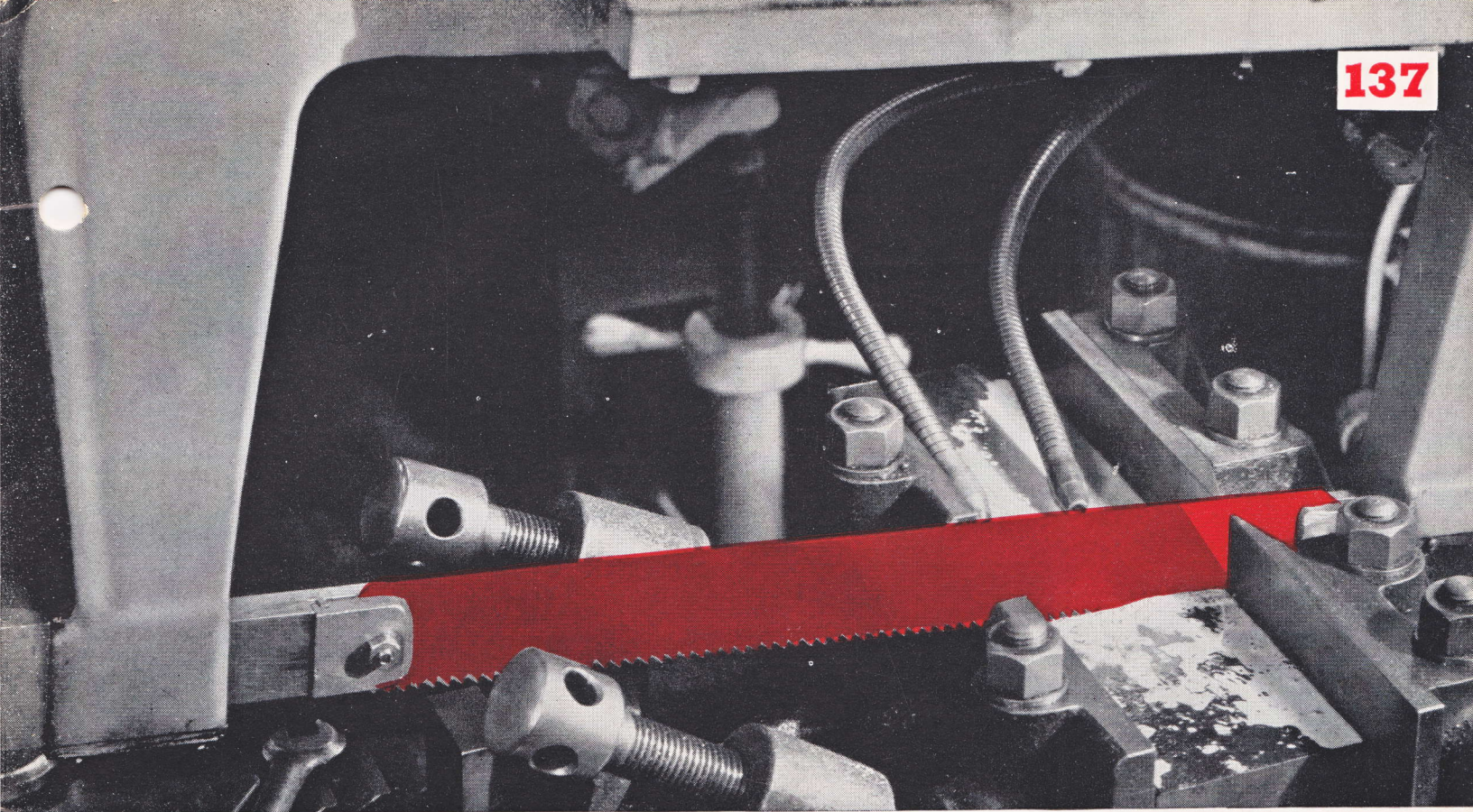
Simonds method of heat-treating produces uniform hardness throughout the length of the blade unapproached by conventional heat-treating methods. As a result, there is no variation in the grain structure of the steel and the teeth hold a cutting edge longer. This means consistently better cutting performance and low cutting costs.

A "RIGHT" BLADE FOR EVERY NEED

For best results in cutting metals of varying degrees of hardness, three types of "Red End" Blades are furnished: *High Speed (Molybdenum)* for cutting mild alloys and general purpose use; *High Speed (Tungsten)* for cutting hard alloys and stainless steels requiring the utmost in cutting efficiency; *Standard Steel* for general shop use (hand blades only). All three types are made in standard lengths, widths, thicknesses and tooth spacings to provide a "right" blade for every need.



Ask for
the Blade
with the
"RED END"



SIMONDS "Red End" Power Hack Saw Blades

Made to Simonds high standards of workmanship, "Red End" Power Blades have what it takes to cut fast and straight . . . to give on-the-job performance that meets the most exacting requirements and proves beyond question it pays to use the best!

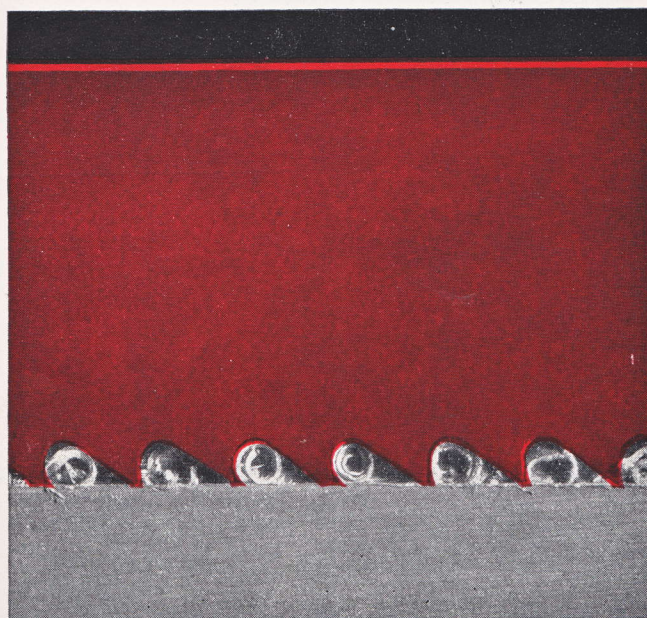
Scientific heat-treatment, proven production equipment and methods, plus individual blade inspection, safeguard the quality and uniformity of every Power Blade. Two types of steel and five tooth spacings provide a choice of blade exactly suited for the task:

High Speed (Molybdenum) Steel for cutting mild alloys and general purpose use where resistance to breakage and long life are important factors.

High Speed (Tungsten) Steel for maximum cutting efficiency on the toughest of alloy steels where resistance to abrasion is a primary requirement.

Both types are furnished to the same specifications as shown on Page 141. See following page for tooth spacing recommendations.

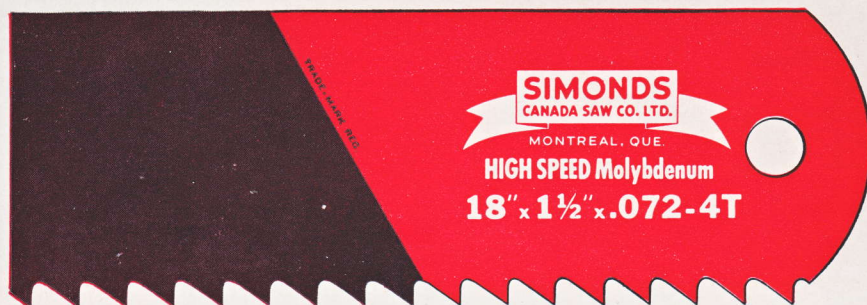
For best results always use the heaviest blade available in the desired size . . . always specify "Red End," the precision blade packed in the familiar all-red box.



The teeth of Simonds "Red End" Blades are designed for fast, straight cutting. Note how they cut curled chips like a cutting tool on a lathe.

SIMONDS "Red End" Power Hack Saw Blades

Choose the Right Blade for the Job



◀ HIGH SPEED (MOLYBDENUM)

4-TOOTH BLADES

The four-tooth blade is recommended for cutting large, soft materials. The large gullet capacity of this tooth size enables large chips to form in the gullets without the danger of clogging.



◀ HIGH SPEED (TUNGSTEN)



◀ HIGH SPEED (MOLYBDENUM)

6-TOOTH BLADES

The six-tooth blade is best adapted to the general cutting of medium size bars and hard materials. The greater number of teeth on a six-tooth saw means that wear can be spread over a larger number of points when cutting.



◀ HIGH SPEED (TUNGSTEN)

Blade Specifications Clearly Indicated

To simplify proper selection and ready identification, all Simonds "Red End" Hack Saw Blades (excepting Standard Steel Hand Blades) are marked with complete specifications: type, length, width, thickness and number of teeth. This mark-

ing appears near the pinhole of the familiar "Red End" of each blade where it will not be worn off. Complete and exact blade specifications are therefore always handy for reference or checking on the job or for reordering purposes.

SIMONDS "Red End" Power Hack Saw Blades

Get Better Results with the Right Blade



◀ HIGH SPEED (MOLYBDENUM)

10-TOOTH BLADES

Ten-tooth blades should be used for cutting sections of very hard stock and materials having small cross sections. While four- and six-tooth blades are best adapted to production cutting, blades with ten teeth are most popular in the machine shop where a large variety of materials are cut.



◀ HIGH SPEED (TUNGSTEN)



◀ HIGH SPEED (MOLYBDENUM)

14-TOOTH BLADES

Blades with fourteen teeth to the inch are used for cutting light sections, such as thin walled tubing, small bars, and light angle iron. Due to the thinner stock used in the manufacture of these blades, they should be used only on light machines cutting small sections.



◀ HIGH SPEED (TUNGSTEN)

Helpful Hints on use of POWER Blades

Be sure the machine lifts the blade slightly on the return stroke. This will insure longer blade life.

Slow speed and moderately heavy feed will give longer blade life than fast speeds and light feeds, because the blade has no chance to slide over the work and thus become dulled before it should. Only by actual tests can it be determined exactly what speed and feed will be best suited for each job but the following table will serve as a general guide for the proper operation of power saws.

Machine	With or Without Solution	Unannealed Tool Steel & Hard Metals	Annealed Tool Steel	Machinery Steel and Soft Metal
		Strokes Per Minute	Strokes Per Minute	Strokes Per Minute
Light	Without	40	50-60	50-60
Medium	Without	40	50-60	50-60
Medium	With	60	65-90	100-110
Heavy	With	60	90	110-120
Ex. Heavy	With	60	90	110-120

Except when cutting cast iron, plenty of cutting compound should be used. This acts as a cooling medium and also reduces friction to a minimum.

SIMONDS "Red End" Hand Hack Saw Blades

Three Types — Four Tooth Sizes



STANDARD STEEL BLADES (made in Hard Edge only) are recommended for general all-around use by machinists, mechanics, electricians, plumbers and maintenance men.

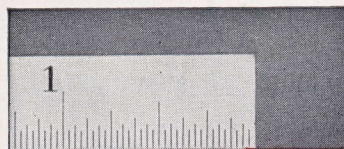


HIGH SPEED (MOLYBDENUM) BLADES (made in All Hard and Hard Edge) resist breakage, are longer wearing, give greatest satisfaction where fast, dependable results are essential.



HIGH SPEED (TUNGSTEN) BLADES (made in All Hard and Hard Edge) are heat resistant and best suited for cutting tough alloy steels.

Choose the Right Blade for the Job



Hand Blades are made in the four tooth sizes shown below and will give best results when used as outlined beside each size.



**14 TEETH
to the inch**

... for cutting soft solid steel, iron, rails, brass, bronze, copper and aluminum. Large gullets clear chips without clogging. Regular set.



**18 TEETH
to the inch**

... for cutting tool steels, iron pipe, and light angle iron. This blade is most satisfactory for general shop use. Regular set.



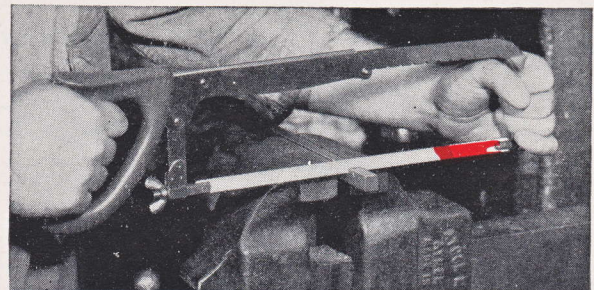
**24 TEETH
to the inch**

... for cutting drill rod, medium sheet metal, tubing. This tooth size is best suited for cutting hard materials. Wavy set.



**32 TEETH
to the inch**

... for cutting thin sheet metal and thin wall tubing. Wavy set for clearance and freedom from binding.



Simonds three types of Hand Hack Saw Blades — Standard, High Speed (Molybdenum) and High Speed (Tungsten) — provide a choice of blade exactly suited for the job to be done, as outlined above.

Standard blades are made in "Hard Edge" only while High Speed (Molybdenum) and High Speed (Tungsten) are made in both Hard Edge and All Hard. Hard Edge Blades are heat-treated only on the tooth edge. This leaves the body of the blade tough and capable of standing the severest strains. Best suited for general purpose cutting, Hard Edge Blades are the most widely used.

All Hard Blades are heat-treated so that they are hardened throughout. This gives added stiffness to the blade which is preferred by most skilled mechanics. Where the work is insecurely held or severe strain is encountered, All Hard Blades are not recommended.

In selecting the proper tooth size, following the explanation at left, it is well to remember that at least three teeth should be in contact with the work at once. This prevents straddle, excessive strain and possible stripping of the teeth or breakage.

SIMONDS

HIGH SPEED
(MOLYBDENUM)
12"-18TSIMONDS
CANADA SAW CO. LTD.
MONTREAL, QUE.HIGH SPEED
(TUNGSTEN)
10"-18TSIMONDS
CANADA SAW CO. LTD.
MONTREAL, QUE.**HAND HACK SAW BLADES**

ALL HAND BLADES PACKED 100 BLADES IN A BOX

Standard Specifications			Standard Steel Hard Edge only	High Speed (Molybdenum) All Hard and Hard Edge	High Speed (Tungsten) All Hard and Hard Edge
Length and Width	Thick-ness	Teeth per Inch	Weight per 100 Blades	Weight per 100 Blades	Weight per 100 Blades
10" x 1 1/2"	.025"	18-24-32	3 1/4 lbs.	4 lbs.	4 1/4 lbs.
12" x 1 1/2"	.025	14-18-24-32	4 lbs.	4 1/2 lbs.	4 3/4 lbs.

**POWER MACHINE BLADES**

ALL POWER BLADES PACKED 10 BLADES IN A BOX

HIGH SPEED (Molybdenum)				HIGH SPEED (Tungsten)			
Length and Width	Thick-ness	Teeth per Inch	Weight per 100 Blades	Length and Width	Thick-ness	Teeth per Inch	Weight per 100 Blades
12" x 5/8"	.032"	14-18	7 lbs.	12" x 5/8"	.032"	14-18	8 lbs.
x 1	.049	14	17 lbs.	x 1	.049	14	19 lbs.
x 1	.065	10	23 lbs.	x 1	.065	10	26 lbs.
14 x 1	.049	10-14	20 lbs.	14 x 1	.049	10-14	22 lbs.
x 1	.065	10	26 lbs.	x 1	.065	10	29 lbs.
x 1 1/4	.065	4-6-10	33 lbs.	x 1 1/4	.065	4-6-10	36 lbs.
x 1 1/2	.072	4-6	44 lbs.	x 1 1/2	.072	4-6	48 lbs.
x 1 1/2	.072	2 1/2	42 lbs.	x 1 1/2	.072	2 1/2	46 lbs.
17 x 1	.049	14	24 lbs.	17 x 1	.049	14	27 lbs.
x 1	.065	10	30 lbs.	x 1	.065	10	33 lbs.
x 1 1/4	.065	4-6-10	39 lbs.	x 1 1/4	.065	4-6-10	43 lbs.
18 x 1	.065	10	34 lbs.	18 x 1	.065	10	37 lbs.
x 1 1/4	.065	4-6-10	43 lbs.	x 1 1/4	.065	4-6-10	47 lbs.
x 1 1/2	.072	4-6	56 lbs.	x 1 1/2	.072	4-6	62 lbs.
x 1 1/2	.072	2 1/2	54 lbs.	x 1 1/2	.072	2 1/2	59 lbs.
x 2	.085	4-6	90 lbs.	x 2	.085	4-6	97 lbs.
21 x 1 1/2	.072	2 1/2	63 lbs.	21 x 1 1/2	.072	2 1/2	69 lbs.
x 2	.085	4-6	102 lbs.	x 2	.085	4-6	110 lbs.
x 2	.100	2 1/2	122 lbs.	x 2	.100	2 1/2	130 lbs.
24 x 2	.085	4-6	121 lbs.	24 x 2	.085	4-6	130 lbs.
x 2	.100	4	140 lbs.	x 2	.100	4	150 lbs.
x 2 1/2	.100	2 1/2	172 lbs.	x 2 1/2	.100	2 1/2	185 lbs.
30 x 2 1/2	.100	4	227 lbs.	30 x 2 1/2	.100	4	238 lbs.
				36 x 4 1/2	.125	2 1/2	675 lbs.

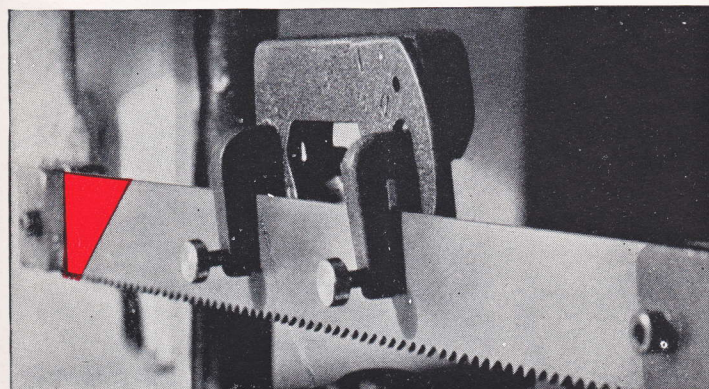
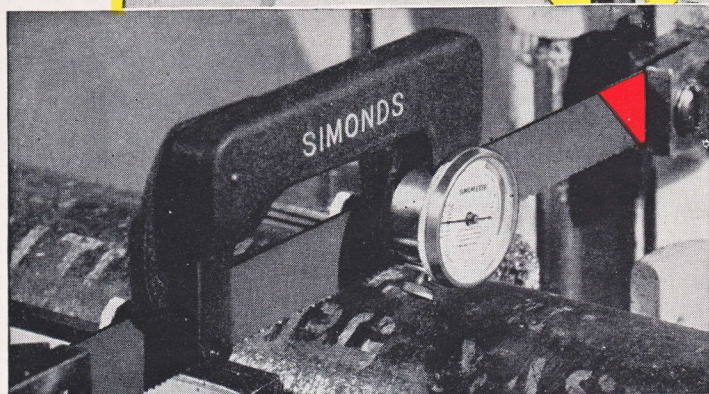
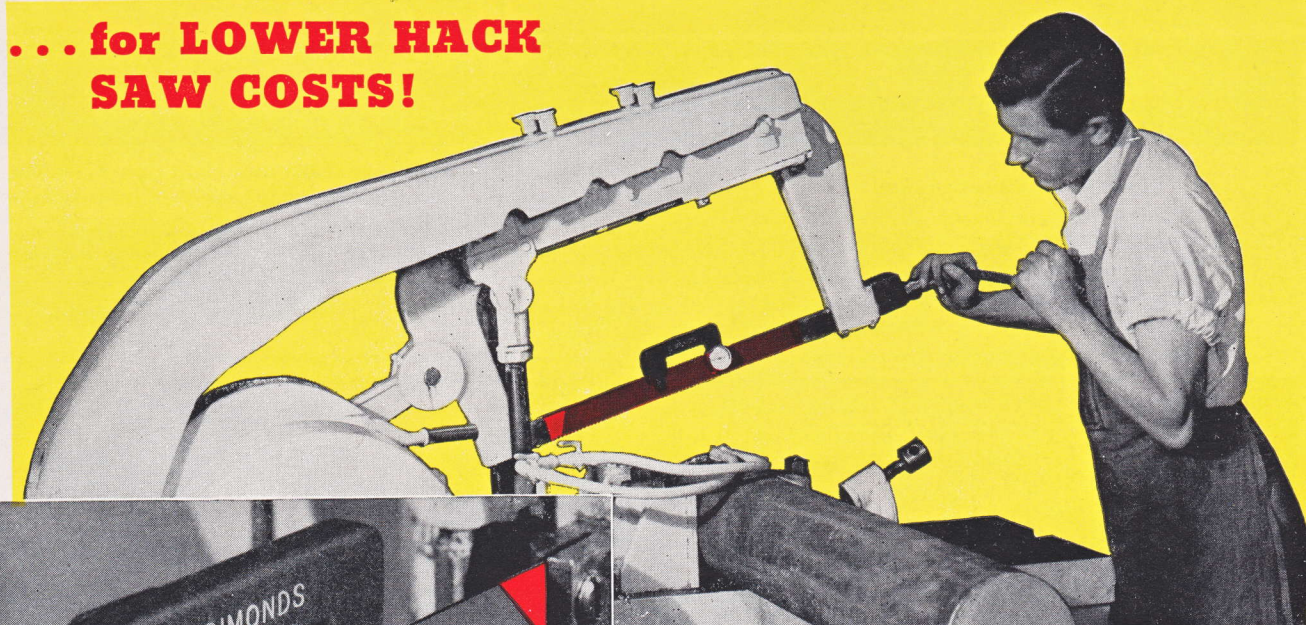
This list comprises all types, sizes, and tooth spacings that will be regularly carried in stock. Anything differing from these Hack Saws will be considered as special and will not be manufactured except in cases of urgent necessity.

SIMONDS CANADA SAW COMPANY, LIMITED

SIMOMETER

**New Method of Testing
for Hack Saw Tension**

**... for LOWER HACK
SAW COSTS!**



SIMOMETER—The tension tester that records hack saw tension accurately, instantly, on a simple, easily read dial!

This ingenious instrument removes completely the costliness of haphazard guesswork in testing the tension of a hack saw blade.

Easily applied to any blade, regardless of length, width or thickness, it measures the tension required to give a straight cut and insure maximum saw life. Attached directly to the blade to be tested, the Simometer avoids any inaccuracies due to friction of

the blade holder or variations in the pitch of threads in tightening devices.

The "Simometer" is placed on the blade before tensioning and, as the blade is tightened, a pointer on a dial indicator moves to the green zone which indicates the proper tension. This device can be used also for determining tension already in a blade.

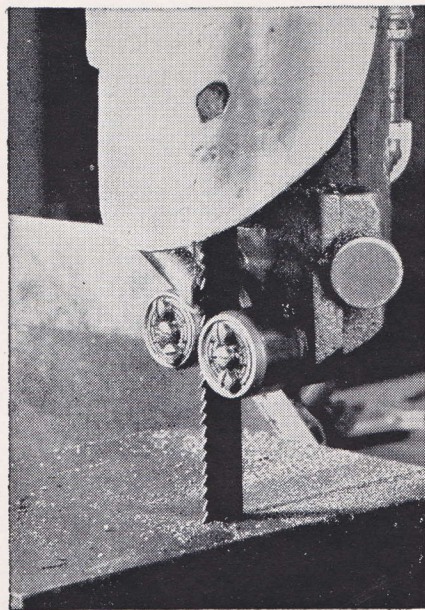
Don't cut short the life of your hack saw blades with improper tensioning. Tighten them right—with a Simometer.



The Simonds easy-to-read "Simometer" comes conveniently boxed for shop use, in a sturdy, protective wooden box.

SIMONDS **HARD EDGE** Metal Band Saws

"The most economical Metal Cutting Band Saws you ever used"

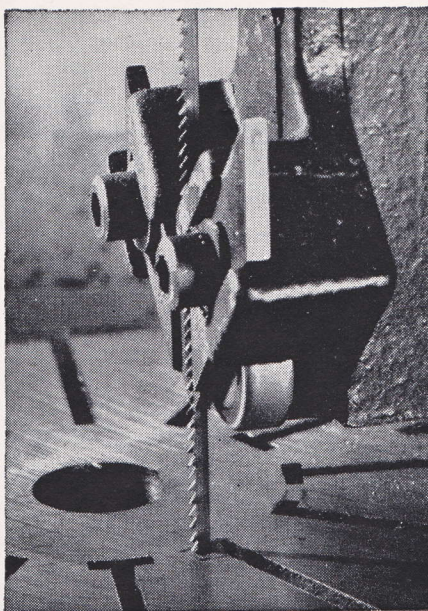


Heavy, straight production cutting.

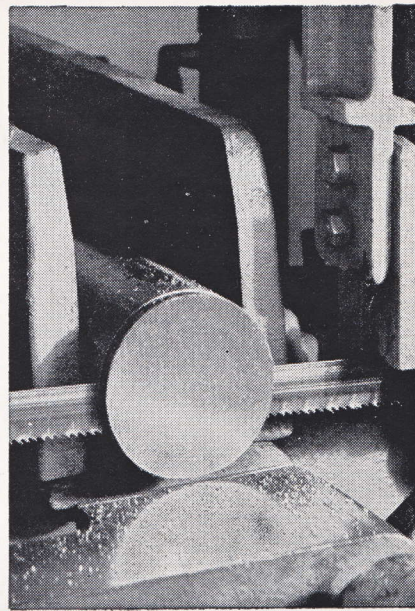
Standard Tooth Metal Band Saws

For heavy, straight production cuts, for contour sawing of jigs, dies, etc., or for cutting of bar stock, tubing, etc., there's a Simonds Hard Edge Band Saw that will do the job quickly, smoothly, economically. Made of tough, alloy steel, Simonds Band Saws have sharp, perfectly formed teeth that are set with absolute evenness on both sides of the blade and are heat-treated along the tooth edge only, so as to give the utmost in trouble-free service.

STANDARD TOOTH BAND SAWS are recommended for cutting iron and steel and harder brass and bronze, come in a variety of widths and tooth sizes with a choice of regular or wavy set to meet different cutting conditions. Choose the right blade for the job, keeping in mind that hard materials and thin sections require finer teeth, whereas coarse teeth give best results on soft materials and large sections.



Contour or die cutting.



General purpose horizontal cutting.

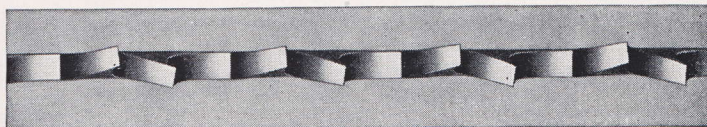
Number of Teeth and Speed for Cutting Various Metals

FERROUS MATERIALS	Teeth per Inch	Speed S.F.P.M.
Alloy Steel	14	100
Carbon Tool Steel	14	100
Cold Rolled	10	140
Drill Rod	14	100
High Speed	14	100
Machinery Steel	10	150
Malleable Iron	10	150
Pipe Iron	14	150
Stainless Steel	14-18	80
Tubing Steel	14-18	120

NONFERROUS MATERIALS	Teeth per Inch	Speed S.F.P.M.
Aluminum Alloy	10	1500
Aluminum Pure	6-8	2500
Brass Castings (Hard)	14	200
Brass Castings (Soft)	8-10	450
Bronze (Aluminum)	14	200
Bronze (Government)	14	150
Bronze (Manganese)	14	150
Duralumin	10	500

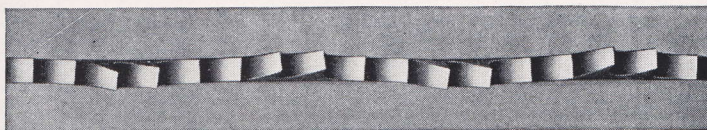
MISCELLANEOUS	Teeth per Inch	Speed S.F.P.M.
Asbestos Sheets	8	300
Bakelite	14	500
Builders Board	10	800
Fiber	10	450
Lucite	10	200
Plastics	10	700

REGULAR SET



Saws with 6 to 24 teeth per inch are Regular Set (left, right, raker) as shown above.

WAVY SET



Wavy Set Saws have groups of teeth set to provide clearance as shown above. All 32 tooth saws are wavy set for best results in cutting thin stock. Saws with 10, 12 and 14 teeth in certain widths are also furnished wavy set for general purpose use.

SIMONDS Hard Edge Metal Cutting Band Saws

STANDARD TOOTH—Specifications



Furnished in 100' and approximately 300' coils or cut to length and welded ready for use

Width Inches	Thick- ness	TEETH PER INCH							Wavy Set Only
		Regular Set Only							
$\frac{1}{8}$	.025	—	—	—	—	14	18	24	—
$\frac{3}{16}$	.025	—	—	10	—	14	18	24	32
$\frac{1}{4}$	.025	—	—	10	12	14	18	24	32
$\frac{3}{8}$	.025	—	8	10	—	14	18	24	—
$\frac{1}{2}$	.025	6	—	*10	—	*14	18	24	—
$\frac{5}{8}$	.032	—	8	*10	—	*14	18	24	—
$\frac{3}{4}$	.032	6	8	*10	*12	*14	18	—	—
1	.035	6	8	*10	—	14	—	—	—

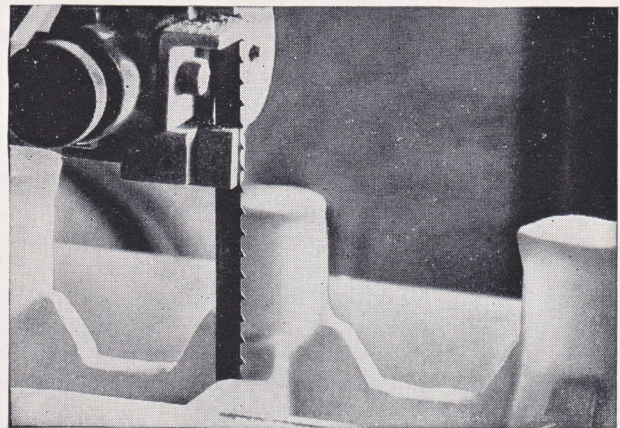
*Also furnished Wavy Set if desired and so ordered.

SKIP TOOTH—Specifications



Furnished in 100' and approximately 300' coils or cut to length and welded ready for use

Width Inches	Thick- ness	TEETH PER INCH Regular Set			
1/4	.025	—	—	4	6
3/8	.025	—	3	4	—
1/2	.025	—	3	4	—
3/4	.032	—	3	—	—
1	.035	2	3	—	—



Skip Tooth Metal Band Saws

Especially adapted for use on soft materials such as plastics, wood, aluminum, magnesium, soft brass and other nonferrous metals, Simonds Skip Tooth Band Saws provide coarse teeth with extra gullet capacity without sacrificing maximum strength in the body of the blade, even in the narrower widths. The extra gullet room easily clears large chips from the cut, avoids clogging, permits higher cutting speeds and heavier feed with smoother results and less refinishing.

SKIP TOOTH BAND SAWS are made of the same tough alloy steel as Standard Tooth Band Saws and are also hardened on the tooth edge only. Wear-resisting and rugged, Skip Tooth Saws remain sharp for such long periods when used on soft materials that you will find them "the most economical Band Saws you ever used." Regularly furnished in widths from 1/4 to 1 inch and in 4 tooth sizes.

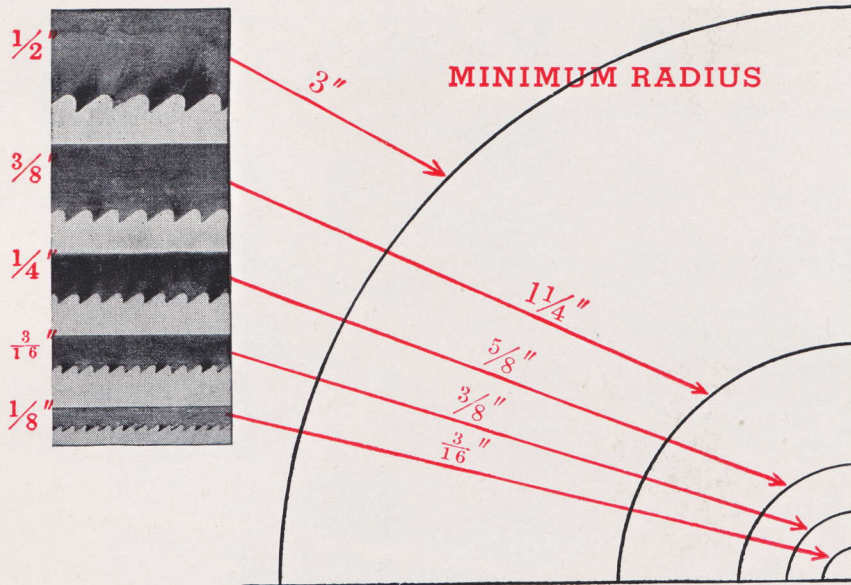
Size of Saws Required for Various Metal Cutting Band Saw Machines

Machine	Length	Width	Machine	Length	Width
Atkins #3	15' 8"	5/8", 3/4" or 1"	Laidlaw CM & CMT	15' 8"	1"
Atkins #4	14' 1"	5/8", 3/4" or 1"	Laidlaw JM-30 & SM-30	16'	3/4"-1"
Avey Milband	14' 9"	1"	Laidlaw JM-30 Fdry.	16'	1" or 1 1/4"
Boice Crane	8' 2"	3/16", 3/8"	Laidlaw JM-30 Fdry.	17' 6"	1 1/4"
Clark Compound	15' 6"	1"	Laidlaw JM-20, SM-20 & SMT-20	11'	3/16", 5/8"
Clark Junior	10' 10"	1/2" or 5/8"	Laidlaw SMT-30	16'	3/16", 5/8"
Clark Special	10' 10"	1/2" or 5/8"	Marvel #8	14' 8"	3/4"
Delta 14"	7' 9"	1/8"-3/8"	Marvel #8 High Column	15' 8"	3/4"
Delta (with Height Attachment)	8' 9"	1/8"-3/8"	Milclark	10' 10"	1/2" or 5/8"
Delta 20"	11' 9"	1/8"-1"	Napier	12' 3"	1"
Do-All No. J	7' 7"	1/8"-1/2"	Napier JR	8' 4"	3/4"
Do-All No. J D	8' 7"	1/8"-1/2"	Racine	7' 8"	1/8", 5/8"
Do-All No. M	9'	1/8"-1/2"	Roll-in	9' 2"	1/4", 3/4"
Do-All No. M L	10'	1/8"-1/2"	Stockbridge 6"	12' 5 1/2"	5/8"
Do-All No. V 16	10'	1/8"-1/2"	Stockbridge 9"	13'	5/8"
Do-All No. V 26	14' 9"	1/8"-1"	Stockbridge 12"	15' 5 1/2"	5/8"
Do-All No. V 36	13' 6"	1/8"-1/2"	Tannewitz E-24"	13' 7"	1/8"-1"
Famco #612 (All models)	8' 10"	1/8"-1"	Tannewitz P-30-30" PH 30"	17'	1/8"-1 1/2"
Grob N S-18-10	12'	1/8"-1"	Tannewitz G-3-36"	19' 6"	1/8"-1 3/4"
Grob N S-24-10	14' 4"	1/8"-1"	Tannewitz GH-36" GHE-36"	19' 9"	1/8"-1 3/4"
Grob N S-36-10	15' 10"	1/8"-1"	Tannewitz DI-SAW 24M, 36M, 48M	13' 7"	1/8"-1 3/4"
Grob N S-60-10	20'	1/8"-1"	Tannewitz RH-42, RHE-42	22'	1/8"-1 3/4"
Grob OSN-20 & OSN-14 (open end)	140'	1/8"-1 1/2"	Thompson	15' 8"	5/8" or 3/4"
Grob C O-18 Cut-off Saw	13' 6"	1/2"	Thompson Milband	12' 11"	3/4"
Grob HS-24 Hi-speed	14' 4"	1/2"-1"	Walker-Turner, 16"	9' 3 1/2"	1/4"-3/4"
Houghton	12' 6"	5/8" or 3/4"	Wells #5	8' 2 1/2"	3/4"
Johnson (Model B)	7' 5"	1/2"	Wells #7a, #7b, & #8	11' 6"	1/2"
Johnson (Model J)	11' 5"	1/2"	Wells #9	9' 5"	1/2"
Kalamazoo (Models 816C and 816S)	10' 5"	3/4"	Wells #12	13' 6"	1"
Kalamazoo (Models 824C and 824S)	12' 1"	3/4"	Wells 49A	5'	1/2"
Kalamazoo (Model 610)	7' 5"	1/2"	W. F. Wells Model M	11' 5"	3/4"
Kalamazoo (Model 1220)	13' 11"	1"	W. F. Wells Model D	14' 5"	1"
Klemm #1	11' 2"	5/8" or 3/4"	Williamson	20' 9"	5/8"
Klemm #2	15' 8"	5/8" or 3/4"	Wright	15' 8"	5/8" or 3/4"

SIMONDS METAL CUTTING BAND SAWS

Radius Chart

WIDTH



In contour sawing the radius of the curve to be cut governs the width of the saw to be used. The smaller the radius, the narrower the blade. For desired radius use width of saw as indicated by above chart.



Handy 100' Coil Container

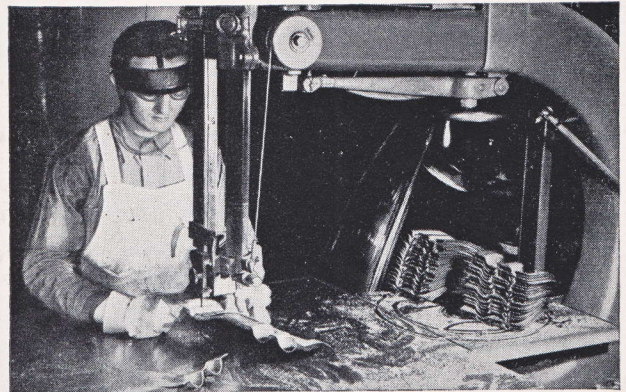
Simonds Standard and Skip Tooth Metal Band Saws in all widths are regularly furnished in 100' coils in a handy, specially designed, all-red package. Welded-to-length Saws are individually packed in a convenient, all-red box fully protected against kinking, rusting or damage—easily identified, ready to use.

Spring Temper Metal Band Saws

Simonds Steel—cold-rolled, carefully heat-treated, ground to close tolerances, and polished—plays a most important part in the outstanding performance of Simonds Spring Temper Band Saws. Extra tough, these saws do a remarkable amount of cutting of the softer metals before the points of the teeth dull. The teeth can then be easily reset and filed and the saw returned to service as good as new.

Simonds Spring Temper Band Saws are especially recommended for cutting thin sheet aluminum and magnesium in aircraft plants; for cutting thin sheet steel in automobile plants, and for general cutting of light structural shapes, plastics, fibre, nonferrous tubing and similar materials. Their exceptional long life makes them economical to use.

These saws are regularly furnished with 3 to 10 teeth per inch in widths from $\frac{1}{4}$ to $1\frac{1}{4}$ inches. All widths are supplied in 250-foot coils or welded to exact machine length. Special widths, thicknesses, or tooth sizes furnished on order.

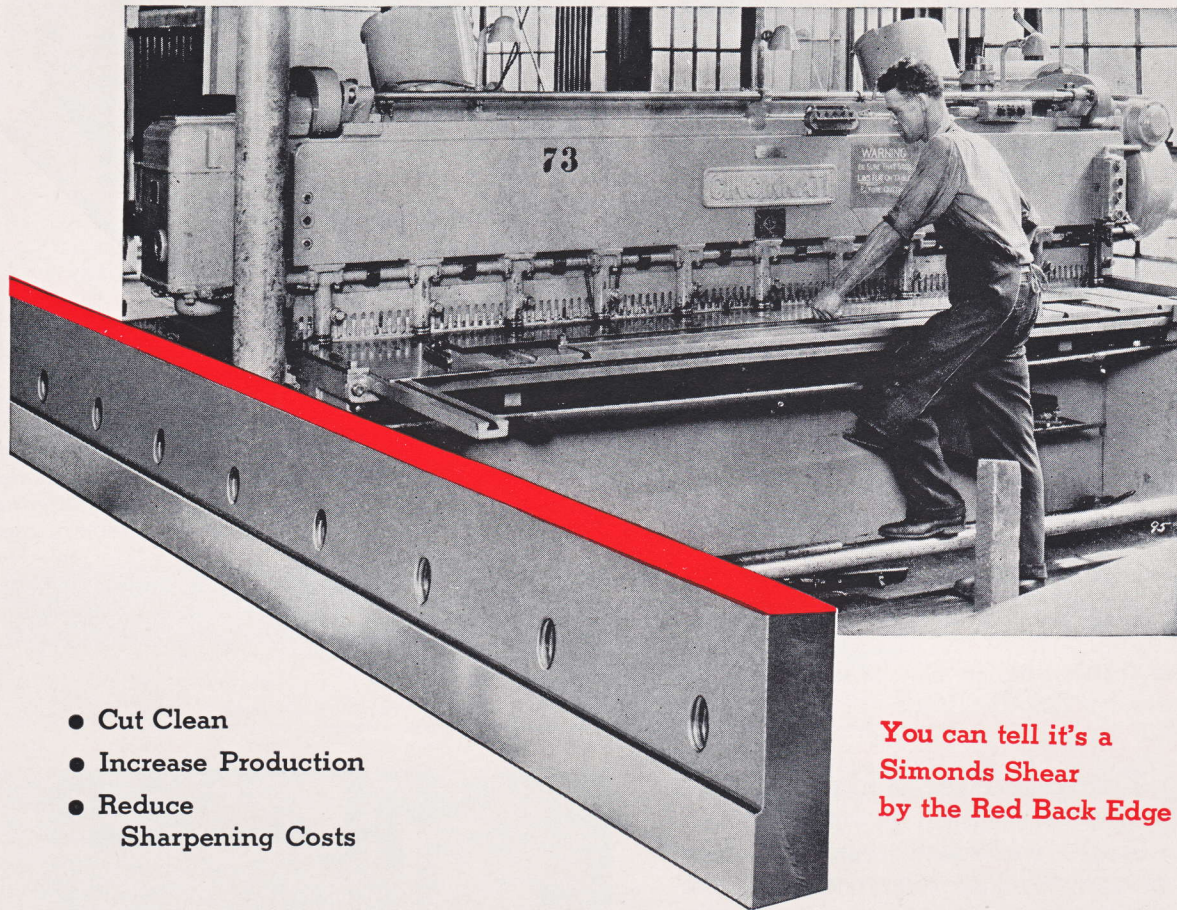


SPRING TEMPER—Specifications

Width Inches	Thickness	Teeth per Inch
$\frac{1}{4}$	23 ga. (.025)	8 - 10
$\frac{3}{8}$	23 ga. (.025)	8 - 10
$\frac{3}{8}$	21 ga. (.032)	8 - 10
$\frac{1}{2}$	23 ga. (.025)	6 - 8 - 10
$\frac{1}{2}$	21 ga. (.032)	6 - 8 - 10
$\frac{5}{8}$	23 ga. (.025)	4 - 6 - 8 - 10
$\frac{5}{8}$	21 ga. (.032)	4 - 6 - 8 - 10
$\frac{5}{8}$	20 ga. (.035)	4 - 6 - 8 - 10
$\frac{3}{4}$	20 ga. (.035)	4 - 6 - 8 -
1	20 ga. (.035)	4 - 6 - 8 -
$1\frac{1}{4}$	19 ga. (.042)	3 - 4

SIMONDS "TUNGSWELD" SHEAR BLADES

With a High Speed Steel Edge for Cutting Thin Metals



- Cut Clean
- Increase Production
- Reduce Sharpening Costs

You can tell it's a
Simonds Shear
by the Red Back Edge

For *longest* cutting life between grinds, Simonds developed the "Tungsweld" method of welding High Speed Steel inlays to the tough steel backing of its Squaring Shears. This method permits heat-treating *after* welding . . . assures full cutting hardness of the steel inlay with resultant longer cutting life.

For *easier* cutting, clearance is ground in the face and top edge . . . with accuracy and uniformity assured by special heavy, up-to-date grinders. The net result is a single edge shear that outlasts other types, costs less in down time and lost production, that gives the utmost in satisfactory shearing of thin sheet metal.

"Tungsweld" Shear Blades give excellent results in cutting sheet silicon, monel metal, allegheny metal, ascology and other so-called stainless iron and steels. They are recommended

for cutting unannealed sheets up to 16-gauge in thickness and annealed sheets up to $\frac{3}{16}$ -inch thick.

Shear Blades up to 44 inches long are made in one piece. Longer lengths are made up of two or three pieces accurately and securely welded together. Blades are made to exact machine specifications for all makes of shears such as Niagara, Peck-Stow & Wilcox, Cincinnati Shaper and Dries & Krump.

Shear Blades with Carbon Steel inlays also furnished.

When ordering, give the following information:

Length	Thickness at back edge
Width of shear	Thickness at
Width of lip	cutting edge
Type, size and location of holes	

SIMONDS **RED STREAK** FLAT GROUND DIE STEEL

(FLAT GROUND STOCK) **OIL HARDENING**



OIL HARDENING • PRECISION GROUND • UNIFORMLY ANNEALED • READY TO USE

Simonds "Red Streak" Flat Ground Die Steel is made of oil hardening, molybdenum type die steel produced in our own Steel Mill. It is uniformly annealed for good machinability and consistently uniform hardenability with a minimum of shrinkage or warping.

Precision ground to a thickness limit of plus or minus .001 inch with a smooth surface finish of 25 to 35 micro inches for accurate layout purposes, standard stock sizes are available from $\frac{1}{64}$ to 3 inches thick and $\frac{1}{8}$ to 14 inches wide—see complete list of sizes on following page.

Edges and ends are square, parallel and accurate to dimension. All sizes are supplied in convenient 18-inch length bars all ready for scribing, shaping, hardening and tempering. The heavier sizes are also furnished in 36-inch lengths.

Due to its wide hardening range (1450° to 1540°F.) uniform results with all thicknesses

are assured with even the simplest heat-treating equipment—see instructions on following page.

Widely used for an ever-growing variety of purposes, this non-deforming type die steel is particularly suited for making dies, punches, jigs, gauges, fixtures, templates, stamps, shims, machine parts and small tools. By eliminating difficult and costly machining operations required to grind ordinary bar stock to size, "Red Streak" Flat Ground Die Steel enables toolmakers, diemakers, machinists and others using tool and die steels to save valuable time and obtain excellent results on every job.

All sizes are individually packaged, fully protected from rusting and scratching, with dimensions and proper heat-treating instructions clearly indicated. Standard sizes are carried in stock by industrial supply distributors and steel warehouses ready for immediate delivery. Special sizes are made to order.

CHEMICAL ANALYSIS

C.	.85 - .95
Mn.	1.30 - 1.50
Si.	.20 - .35
Mo.	.20 - .30

SIMONDS CANADA SAW COMPANY, LIMITED

SIMONDS **RED STREAK** FLAT GROUND DIE STEEL

(FLAT GROUND STOCK) **OIL HARDENING**

HEAT-TREATMENT

HARDENING

All thicknesses are satisfactorily quenched in oil from a hardening temperature of 1450° to 1540° Fahrenheit (1525° is recommended). *Quenching in water, regardless of water temperature, should not be attempted since this material is oil hardening.* It is necessary, before quenching that the stock be thoroughly and uniformly heated. Temperature of the oil quench should be approximately 125°F.

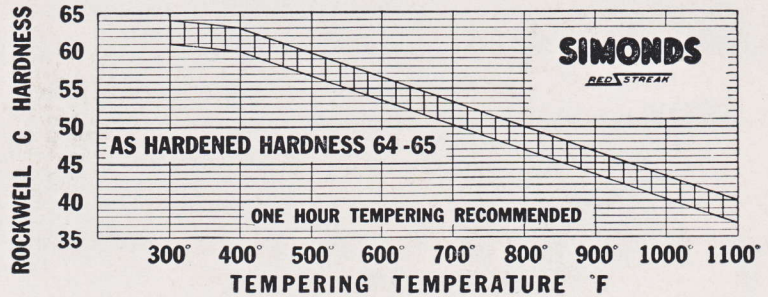
If commercial quenching oils are not available, motor engine oil SAE 20 or SAE 30 may be substituted. Caution should be exercised to prevent the quenching oil becoming too hot and catching fire. The flash point of motor engine oil SAE 20 is approximately 340° F.

TEMPERING

For filing temper—Heat to a very dark blue.

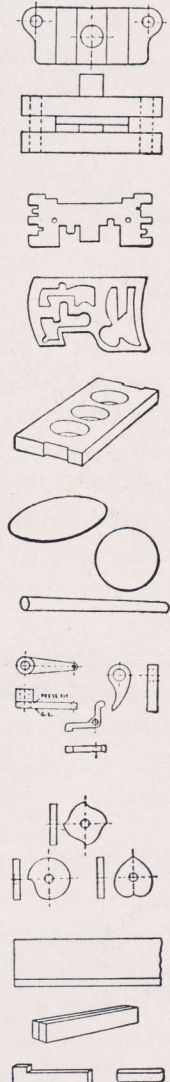
For grinding temper—Heat to a light straw color.

For specific Rockwell hardness—Follow chart below.



STANDARD STOCK SIZES—18" BARS—OIL HARDENING

Thickness Inches	Width Inches	Thickness Inches	Width Inches	Thickness Inches	Width Inches	Thickness Inches	Width Inches	Thickness Inches	Width Inches	Thickness Inches	Width Inches
$\frac{1}{64}$ X .015625	1 1½ 2 2½ 3 4	$\frac{3}{32}$ X .09375	½ ¾ 1 1½ 2 2½ 3 3½ 4 5 6 8	$\frac{3}{16}$ X .1875	3/16 ½ ¾ 1 1¼ 1½ 2 2½ 3 3½ 4 5 6 8 10 12	$\frac{5}{16}$ X .3125	5/16 ½ 1 1½ 2 2½ 3 4 5 6 8 10 12	$\frac{5}{8}$ X .625	¾ 1 1½ 2 2½ 3 4 5 6 8 10 12	$1\frac{1}{2}$ X	1½ 3 4 5 6 8 10
$\frac{1}{32}$ X .03125	½ ¾ 1 1½ 2 2½ 3 3½ 4 5 6	$\frac{1}{8}$ X .125	½ ¾ 1 1¼ 1½ 2 2½ 3 3½ 4 5 6 8 10	$\frac{7}{32}$ X .21875	7/32 1 1½ 2 2½ 3 4	$\frac{3}{8}$ X .375	¾ ½ ¾ 1 1½ 2 2½ 3 4 5 6 7 8 10 12	$\frac{3}{4}$ X .750	1 1½ 2 2½ 3 4 5 6 8 10 12 14	36" BARS $\frac{1}{2}$ X	2 3 4 5 6
$\frac{3}{64}$ X .046875	½ 1 1½ 2 2½ 3 4 5 6 8	$\frac{1}{4}$ X .250	½ ¾ 1 1¼ 1½ 2 2½ 3 3½ 4 5 6 8 10	$\frac{1}{2}$ X .500	½ ¾ 1 1½ 2 2½ 3 4 5 6 7 8 10 12	1 X	1 1½ 2 2½ 3 4 5 6 8 10 12 14	$1\frac{1}{4}$ X	1¼ 1½ 2 2½ 3 4 5 6 8 10 12 14	$\frac{5}{8}$ X	2 3 4 5 6
$\frac{1}{16}$ X .0625	½ ¾ 1 1¼ 1½ 2 2½ 3 3½ 4 5 6 8	$\frac{5}{32}$ X .15625	5/32 ½ ¾ 1 1¼ 1½ 2 2½ 3 3½ 4 5 6 8							$\frac{3}{4}$ X	2 3 4 5 6
										1 X	2 3 4 5 6 8 10
										$1\frac{1}{2}$ X	2 3 4 5 6 8 10



SIMONDS

RED STREAK

AIR HARDENING

(5% Chrome Type)

FLAT GROUND DIE STEEL

CHEMICAL ANALYSIS

Carbon . . .	.95-1.05	Chrome . . .	5.00-5.50
Manganese . .	.50-.70	Molybdenum . .	.90-1.10
Silicon . . .	.30-.50	Vanadium . . .	.20-.30

STANDARD STOCK SIZES

(36" Length Bars)

Thickness	Width	Length	Thickness	Width	Length
1 1/2" x	2	x 36	1 1/4" x	2	x 36
	3	x 36		3	x 36
	4	x 36		4	x 36
	5	x 36		5	x 36
5/8" x	6	x 36		6	x 36
	8	x 36		8	x 36
	10	x 36		10	x 36
3/4" x	2	x 36	1 1/2" x	2	x 36
	3	x 36		3	x 36
	4	x 36		4	x 36
	5	x 36		5	x 36
1" x	6	x 36		6	x 36
	8	x 36		8	x 36
	10	x 36		10	x 36
2" x	2	x 36	2" x	2	x 36
	3	x 36		3	x 36
	4	x 36		4	x 36
	5	x 36		5	x 36
2" x	6	x 36		6	x 36
	8	x 36		8	x 36
	10	x 36		10	x 36

Simonds now offers an Air Hardening type of Die Steel for longer lasting punches and dies where greater production runs are desired between sharpenings. This 5% chrome type steel will produce up to 50% more pieces per sharpening than the Oil Hardening type of Die Steel. Due to the Air Hardening features less skill is required in heat-treating.

The 5% chrome content makes this type of steel more wear resistant than oil hardening types and therefore is ideal for punches and dies for punching silicon or stainless steels, Monel metal, or other types of abrasive metal. It also may be used for gauges, tools, etc., where a more wear resistant steel is desired.

Made in Simonds Own Steel Mill under the supervision of skilled metallurgists, this Air Hardening, non-deforming type Die Steel is spheroidize annealed for good machinability and consistently uniform hardenability. It has a wide hardening range (1700° to 1800°F.) which makes it practically foolproof in heat-treating.

Furnished in 43 standard stock sizes in 36" lengths (see list opposite), all sizes are accurately ground to a thickness limit of plus or minus .001" with an extra smooth surface finish of 25 to 35 micro-inches. Edges are parallel and square with flats. All scale, decarburization and surface defects are completely removed so that each piece is ready for scribing, shaping and heat-treating.

All sizes are individually packaged, fully protected from rusting or scratching, with dimensions and heat-treating instructions on each wrapper.

HEAT-TREATMENT

HARDENING: 1750°F. recommended. (Hardening range 1700°-1800°F. For heavier sections use high side of range.) • Do not soak any longer than necessary to insure uniform heat throughout. • Cool in still air. • If pack or atmosphere control furnace methods are used, no preheat required. • If open furnace method is used, a preheat of 1450°F. is recommended.

TEMPERING: See tempering chart opposite for desired hardness. Two-hour temper recommended. For maximum toughness double temper 1 1/2 hours each temper recommended. • For light blanking: Temper 400° to 425°F. • For heavy blanking: Temper 700°F.

ANNEALING: 1525°F. to 1575°F. Furnace cool at not more than 50° per hour to 800° for maximum softness.

